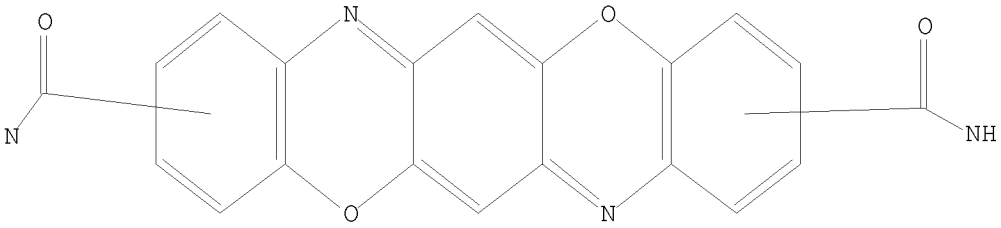
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom
20:Atom 21:Atom 22:Atom 23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS
28:CLASS 29:Atom 30:Atom

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SCREEN SEARCH COMPLETED - 31 TO ITERATE

100.0% PROCESSED 31 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 286 TO 954
PROJECTED ANSWERS: 1 TO 80

L2 1 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 08:38:13 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 514 TO ITERATE

100.0% PROCESSED 514 ITERATIONS 25 ANSWERS
SEARCH TIME: 00.00.01

L3 25 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 178.36 178.57

FILE 'CAPLUS' ENTERED AT 08:38:17 ON 12 DEC 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 12 Dec 2008 VOL 149 ISS 25
FILE LAST UPDATED: 11 Dec 2008 (20081211/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/legal/infopolicy.html

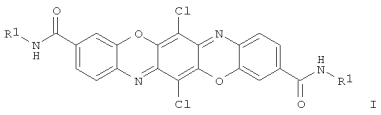
=> s l3
L4 7 L3

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:673360 CAPLUS
DOCUMENT NUMBER: 143:213064
TITLE: Triphendioxazine pigments.
INVENTOR(S): Blum, David; Plueg, Carsten; Reipen, Tanja
PATENT ASSIGNEE(S): Clariant G.m.b.H., Germany
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005068560	A1	20050728	WO 2005-EP197	20050112
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 102004001883	A1	20050811	DE 2004-102004001883	20040114
EP 1706459	A1	20061004	EP 2005-700825	20050112
EP 1706459	B1	20081119		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
CN 1906251	A	20070131	CN 2005-80001794	20050112
JP 2007520596	T	20070726	JP 2006-548250	20050112
KR 2006132647	A	20061221	KR 2006-714133	20060713
US 20080234480	A1	20080925	US 2006-586093	20060713
PRIORITY APPLN. INFO.:			DE 2004-102004001883A	20040114
			WO 2005-EP197 W	20050112

OTHER SOURCE(S): MARPAT 143:213064
GI



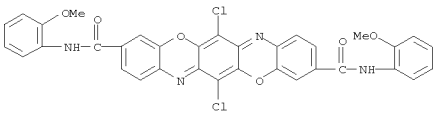
I

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

AB Triphendioxazine pigments, such as an example I are useful and for pigmenting lacquers, plastics, printing inks, aqueous or solvent-containing pigment pastes, electrophotog. toners and developers, powders. Thus, I (R1 = o-C6H4OMe) was prepared by intramol. cyclization of a benzoquinone (prepared by reacting 4-aminobenzoic acid with chloranil in ethanol in the presence of water and sodium acetate followed by neutralization with HCl) in the presence of a MnO2 in H2SO4 as an oxidizing agent at 40° followed by reacting with thionyl chloride and reacting the resulting chloroanhydride with 2-methoxyphenylamine in the presence of K2CO3 in NMP as a solvent. 4 Weight parts of this pigment was used in a mixture with 96 weight parts of a composition containing 50 weight parts of coco aldehyde - melamine resin in butanol, 10 weight parts of xylene and 10 weight parts of ethylene glycol monomethyl ether for preparing a red pigment concentrate

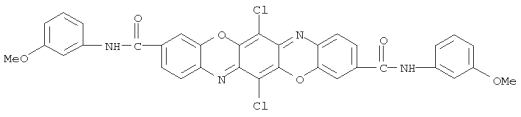
IT 862367-39-3P 862367-40-6P 862367-41-7P
862367-42-8P 862367-43-9P 862367-44-0P
862367-45-1P 862367-46-2P 862367-47-3P
862367-48-4P 862367-49-5P 862367-50-8P
862367-51-9P 862367-52-0P 862367-53-1P
862367-54-2P 862367-55-3P 862367-56-4P
862367-57-5P
RL: IMF (Industrial manufacture); PREP (Preparation)
(triphendioxazine pigments for pigmenting lacquers, plastics, printing inks, aqueous or solvent-containing pigment pastes,)

RN 862367-39-3 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide, 6,13-dichloro-N3,N10-bis(2-methoxyphenyl)- (CA INDEX NAME)

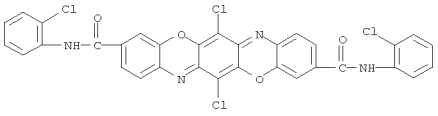


RN 862367-40-6 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide, 6,13-dichloro-N3,N10-bis(3-methoxyphenyl)- (CA INDEX NAME)

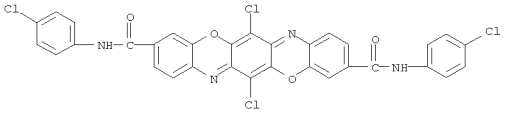
L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



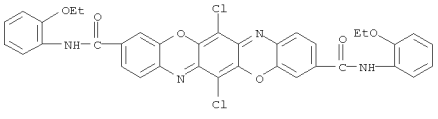
RN 862367-41-7 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide, 6,13-dichloro-N3,N10-bis(2-chlorophenyl)- (CA INDEX NAME)



RN 862367-42-8 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide, 6,13-dichloro-N3,N10-bis(4-chlorophenyl)- (CA INDEX NAME)

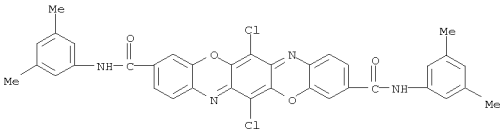


RN 862367-43-9 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide, 6,13-dichloro-N3,N10-bis(2-ethoxyphenyl)- (CA INDEX NAME)

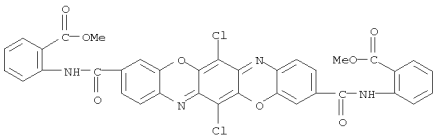


RN 862367-44-0 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,

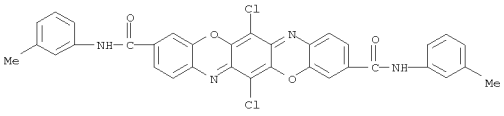
L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
6,13-dichloro-N3,N10-bis(3,5-dimethylphenyl)- (CA INDEX NAME)



RN 862367-45-1 CAPLUS
CN Benzoic acid, 2,2'-[(6,13-dichlorotriphenodioxazine-3,10-diyl)bis(carbonylimino)]bis-, dimethyl ester (9CI) (CA INDEX NAME)

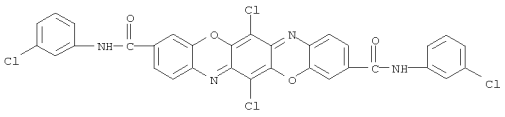


RN 862367-46-2 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide, 6,13-dichloro-N3,N10-bis(3-methylphenyl)- (CA INDEX NAME)



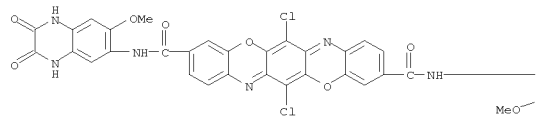
RN 862367-47-3 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide, 6,13-dichloro-N3,N10-bis(3-chlorophenyl)- (CA INDEX NAME)

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

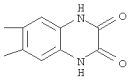


RN 862367-48-4 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,
6,13-dichloro-N3,N10-bis(1,2,3,4-tetrahydro-7-methoxy-2,3-dioxo-6-quinoxalinyl)- (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

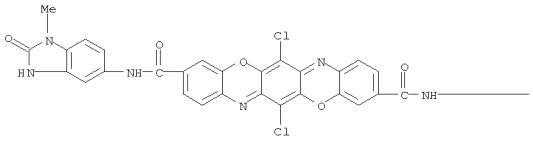


RN 862367-49-5 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,

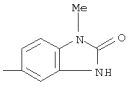
6,13-dichloro-N3,N10-bis(2,3-dihydro-1-methyl-2-oxo-1H-benzimidazol-5-yl)- (CA INDEX NAME)

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 1-A



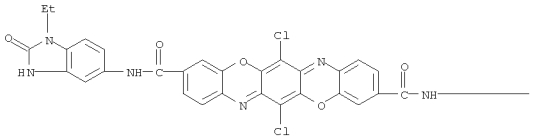
PAGE 1-B



RN 862367-50-8 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,

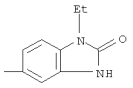
6,13-dichloro-N3,N10-bis(1-ethyl-2,3-dihydro-2-oxo-1H-benzimidazol-5-yl)- (CA INDEX NAME)

PAGE 1-A



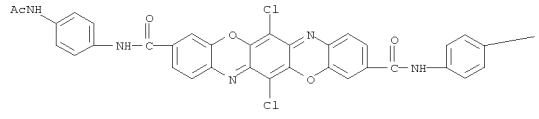
L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 1-B



RN 862367-51-9 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,
N3,N10-bis[4-(acetylamino)phenyl]-6,13-dichloro- (CA INDEX NAME)

PAGE 1-A

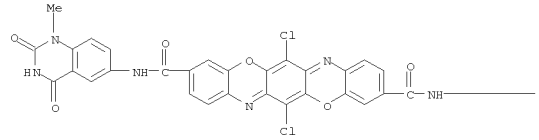


PAGE 1-B

—NHAc

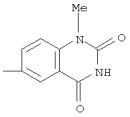
RN 862367-52-0 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,
6,13-dichloro-N3,N10-bis(1,2,3,4-tetrahydro-1-methyl-2,4-dioxo-6-quinazolinyl)- (CA INDEX NAME)

PAGE 1-A



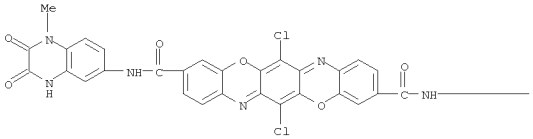
L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

PAGE 1-B



RN 862367-53-1 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,
6,13-dichloro-N3,N10-bis(1,2,3,4-tetrahydro-1-methyl-2,3-dioxo-6-quinoxalinyl)- (CA INDEX NAME)

PAGE 1-A



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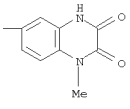
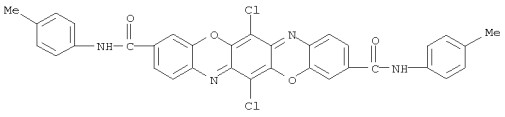
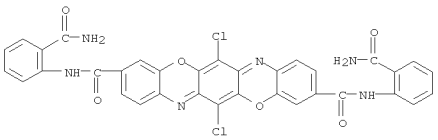


RN 862367-54-2 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,
6,13-dichloro-N3,N10-bis(4-methylphenyl)- (CA INDEX NAME)

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

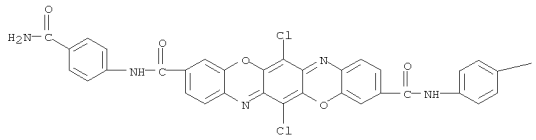


RN 862367-55-3 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,
N3,N10-bis[2-(aminocarbonyl)phenyl]-6,13-dichloro- (CA INDEX NAME)



RN 862367-56-4 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,
N3,N10-bis[4-(aminocarbonyl)phenyl]-6,13-dichloro- (CA INDEX NAME)

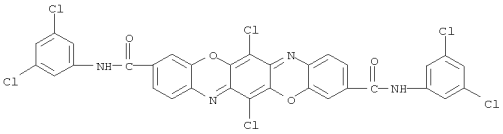
PAGE 1-A



PAGE 1-B

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

RN 862367-57-5 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide,
6,13-dichloro-N3,N10-bis(3,5-dichlorophenyl)- (CA INDEX NAME)

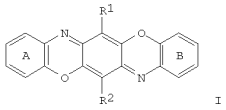


REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L4 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1991:164260 CAPLUS
DOCUMENT NUMBER: 114:164260
ORIGINAL REFERENCE NO.: 114:27789a,27792a
TITLE: Preparation of triphendioxazines
INVENTOR(S): Patsch, Manfred; Marschner, Claus
PATENT ASSIGNEE(S): BASF A.-G., Germany
SOURCE: Eur. Pat. Appl., 6 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 400429	A2	19901205	EP 1990-109524	19900519
EP 400429	A3	19911127		
R: CH, DE, FR, GB, IT, LI				
DE 3917602	A1	19901206	DE 1989-3917602	19890531
JP 03017084	A	19910125	JP 1990-138640	19900530
PRIORITY APPLN. INFO.:			DE 1989-3917602 A	19890531

OTHER SOURCE(S): MARPAT 114:164260
GI



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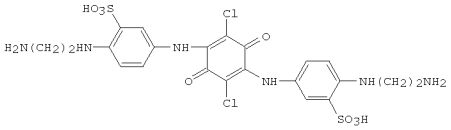
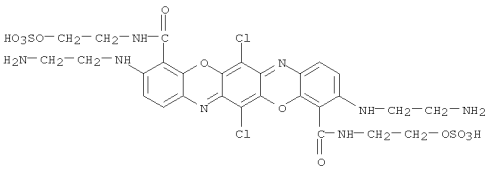


II

AB Triphendioxazine derivs. I [R1, R2 = H, C1-4 alkyl, C1-4 alkoxy, halo, (substituted) Ph or OPh; Rings A and B may be substituted or fused to a carbocyclic or heterocyclic ring] were prepared via intramol. cyclization of benzoquinones in the presence of a metal perborate or percarbonate oxidizing agent using H2SO4 at 0-10°, followed by addition of NaBO2·H2O2·3H2O. The mixture was stirred 2 h at 10-15° to give the corresponding I.
IT 133047-63-9P

L4 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, via cyclization of benzoquinone deriv.)
RN 133047-63-9 CAPLUS
CN 4,11-Triphenodioxazinedicarboxamide,

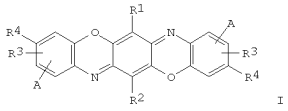
3,10-bis[(2-aminoethyl)amino]-6,13-dichloro-N4,N11-bis[2-(sulfooxy)ethyl]- (CA INDEX NAME)



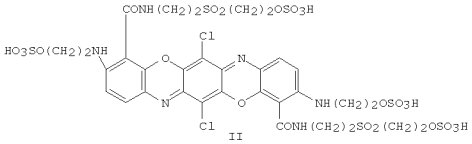
L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1990:633340 CAPLUS
DOCUMENT NUMBER: 113:233340
ORIGINAL REFERENCE NO.: 113:39363a,39366a
TITLE: Reactive triphenodioxazine dyes
INVENTOR(S): Tzikas, Athanassios; Aeschlimann, Peter
PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
SOURCE: Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 365478	A1	19900425	EP 1989-810770	19891010
EP 365478	B1	19931208		
R: BE, CH, DE, FR, GB, IT, LI				
US 4997937	A	19910305	US 1989-422339	19891016
JP 02166167	A	19900626	JP 1989-269252	19891018
PRIORITY APPLN. INFO.:			CH 1988-3877 A	19881018

OTHER SOURCE(S): MARPAT 113:233340
GI



I



II

AB Title dyes I [A = fiber-reactive group-substituted carbonamides; R1-R3 = H, substituent; R4 = R5NR6, (un)substituted (phenylalkylene)amino; R5, R6 = H, (un)substituted C1-6 alkyl], useful for dyeing and printing cellulosic fabrics, are prepared Thus,

L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
3,4-(HOCH2CH2SO2CH2CH2NHCO)(HOCH2CH2NH)C6H3NH2 was condensed with 2,3,5,6-tetrachloroquinone and the intermediate cyclized in the presence oleum and K2S2O8, producing II, which dyed cotton fabrics fast blue shades.
IT 130711-53-4P
RL: PREP (Preparation)
(manufacture of, as blue reactive dye for cellulosic fibers)
RN 130711-53-4 CAPLUS
CN 4,11-Triphenodioxazinedicarboxamide, 6,13-dichloro-3,10-bis[[2-(sulfooxy)ethyl]amino]-N4,N11-bis[2-[[2-(sulfooxy)ethyl]sulfonyl]ethyl]- (CA INDEX NAME)

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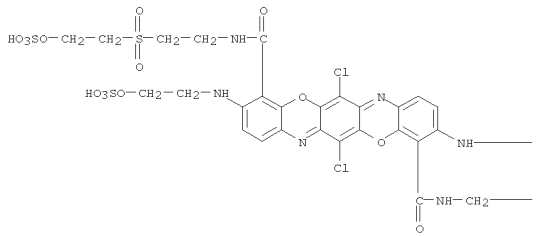
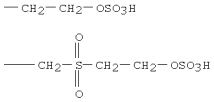


L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)

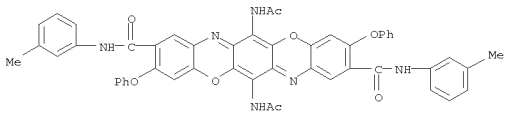
PAGE 1-B



L4 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1971:510991 CAPLUS
DOCUMENT NUMBER: 75:110991
ORIGINAL REFERENCE NO.: 75:17527a,17530a
TITLE: Triphenodioxazine pigment
INVENTOR(S): Ronco, Karl; Tschudin, Heinrich
PATENT ASSIGNEE(S): CIBA-Geigy A.-G.
SOURCE: Ger. Offen., 21 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2061702	A	19710701	DE 1970-2061702	19701215
CH 532633	A	19730228	CH 1969-19171	19691223
FR 2074173	A5	19711001	FR 1970-46280	19701222
GB 1312160	A	19730404	GB 1970-61095	19701223
PRIORITY APPLN. INFO.:			CH 1969-19171 A	19691223

GI For diagram(s), see printed CA Issue.
AB 5-(m-Tolylcarbamoyl)-2,4-diphenoxyaniline, 2,5-bis(acetamido)-3,6-dichlorobenzoquinone, and calcined Na acetate in α-chloronaphthalene was heated 30 min at 180-5° to give 6,13-bis(acetamido)-3,10-diphenoxy-2,9-bis(m-tolylcarbamoyl)triphenodioxazine (I) coloring poly(vinyl chloride) film fast orange.
IT 32861-09-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of)
RN 32861-09-9 CAPLUS
CN 2,9-Triphenodioxazinedicarboxamide, 6,13-bis(acetylamino)-N2,N9-bis(3-methylphenyl)-3,10-diphenoxy- (CA INDEX NAME)



L4 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1961:84401 CAPLUS
DOCUMENT NUMBER: 55:84401
ORIGINAL REFERENCE NO.: 55:15948a-d
TITLE: Textile materials based on polyesters containing six-membered heterocyclic compounds, simultaneously dyed and made antistatic
INVENTOR(S): Nuesslein, Josef; Vogt, Adolf
PATENT ASSIGNEE(S): Farbwerke Hoechst AG
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

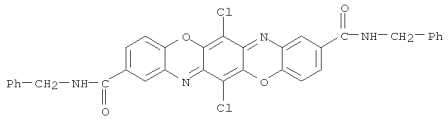
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1083225		19600615	DE 1958-F25045	19580214

AB The treatment is performed in baths containing both dispersion dyes and compds. of the formula RN(X)(Y), in which R is a hydrocarbon radical containing 16-20 C atoms, and X and Y are ethylene glycol or polyethylene glycol radicals containing 2-3 ethylene glycol units. Such fatty amines do not interfere with the dyeing effect and have their antistatic effect not reduced by the subsequent rinsing procedure. Thus, 100 g. of flocks consisting of poly(ethylene terephthalate) was dyed at 130° under pressure in a bath containing 2% of 1,4-bis[bis(2-hydroxyethyl)amino]-5,8-dihydroxyanthraquinone and 0.2 g./l. of the reaction product of 3 moles ethylene oxide and cocoanut fatty alkyl amine. The dyed and treated material had an elec. resistance of 1300 megohms as compared with 1 of 3.6 + 106 megohms obtained by dyeing without the addition of the hydroxyethyl compound Similarly, worsted tops consisting of poly(ethylene terephthalate) were simultaneously dyed and made antistatic by the use of the azo dye resulting from coupling diazotized p-nitroaniline with m-chloro-N,N-bis(2-hydroxyethyl)aniline and the reaction product of a tallow fatty alkyl amine and 2 moles of ethylene oxide.

IT 122387-96-6P, 2,9-Triphenodioxazinedicarboxamide, N,N'-dibenzyl-6,13-dichloro-
RL: PREP (Preparation)
(preparation of)

RN 122387-96-6 CAPLUS
CN 2,9-Triphenodioxazinedicarboxamide, 6,13-dichloro-N2,N9-bis(phenylmethyl)-
(CA INDEX NAME)

L4 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)



L4 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1951:62732 CAPLUS
DOCUMENT NUMBER: 45:62732
ORIGINAL REFERENCE NO.: 45:10606a-f
TITLE: Sulfur dyes of the dioxazine series
INVENTOR(S): Robbins, Gordon B.
PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2564381		19510814	US 1949-100746	19490622

AB Sym. N,N'-diaryltriphendioxazinedicarboxamides having thiocyano substituents on the aryl groups are synthesized by condensing an organic polysulfide or a thiocyanoaniline with halogenated triphendioxazinedicarbonyl halides. The products are N,N'-diaryl-6,13-dihalotriphendioxazine-2,9(or 3,10)-dicarboxamide sulfur dyes. The products are characterized by improved purity and tinctorial properties, by virtue of the exact control over the position of the sulfide-vattable polysulfide or SCN groups. The products are, listing in order acid component, amine component, and shade when applied to cotton from a sulfide vat: 6,13-dichlorotriphendioxazine-2,9-dicarboxylic acid (I), 4-thiocyanoaniline, red; I, 2-methoxy-4-thiocyano-5-chloroaniline, red; I, 2,5-dichloro-4-thiocyanoaniline, yellowish red; I, 2,5-dimethoxy-4-thiocyanoaniline, blueish red; I, 2-amino-6-thiocyanobenzothiazole, blueish red; I, 2-amino-4,5-benzo-6-thiocyanobenzothiazole, blueish red; I, 2,2'-diaminodiphenyl disulfide, red; I, 4,4'-diaminodiphenyl disulfide, red; I, N-methyl-4-thiocyanoaniline, light red; 6,13-dichlorotriphendioxazine-3,10-dicarboxylic acid (II), 4-thiocyanoaniline, bright orange; II, 2-methoxy-4-thiocyanoaniline, bright orange; II, 2-methoxy-4-thiocyano-5-chloroaniline, bright orange; II, 2,5-dichloro-4-thiocyanoaniline, yellowish orange; II, 2-methyl-4-thiocyano-5-chloroaniline, yellowish orange; II, 4,4'-diaminodiphenyl disulfide, bright orange; 3,6,10,13-tetrachlorotriphendioxazine-2,9-dicarboxylic acid, 4-thiocyanoaniline (III), red; 6,13-dibromotriphendioxazine-2,9-dicarboxylic acid, III, red; 6,13-dibromotriphendioxazine-3,10-dicarboxylic acid, III, orange; I, 4,4'-diamino-2,2',5,5'-tetrachlorodiphenyl disulfide, yellowish red; I, 4,4'-diamino-2,2'-dichloro-5,5'-dimethyldiphenyl disulfide, red; I, 2,4-dithiocyano-1-naphthylamine, blueish red; I, 2-amino-4-methoxy-6-thiocyanobenzothiazole, blueish red; I, 6,6'-bis(2-aminobenzothiazolyl) disulfide, blueish red; I, 4,4'-diamino-2,2'-dichloro-5,5'-dimethoxydiphenyl disulfide, red; I, 4,4'-diamino-5,5'-dimethyldiphenyl disulfide, yellowish red; I, 2-amino-4-methyl-6-thiocyanobenzothiazole, blueish red. In a typical synthesis 6,13-dichlorotriphendioxazine-2,9-dicarboxylic acid 1, pyridine 0.1, o-C6H4Cl2 26, and SOCl2 3 parts are refluxed 2 hrs. and distilled until the residue boils at 175°. The residue is cooled to 100° and pyridine 2.5 and p-NCSC6H4NH2 1.0 to 1.5 parts are added. The mixture is heated at 125° for 1 hr., cooled, diluted with alc., and the product N,N' - bis(4 - thiocyanophenyl) - 6,13 - dichlorotriphendioxazine-2,9-dicarboxamide is filtered off, washed, and dried.

IT 859322-82-0P, 3,10-Triphenodioxazinedicarboxamide,

L4 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)
6,13-dichloro-N,N'-bis(5-thiocyanatonaphtho[1,2-d]thiazol-2-yl)-
RL: PREP (Preparation)
(prepn. of)

RN 859322-82-0 CAPLUS
CN 3,10-Triphenodioxazinedicarboxamide, 6,13-dichloro-N,N'-bis(5-thiocyanatonaphtho[1,2-d]thiazol-2-yl)- (5CI)
(CA INDEX NAME)

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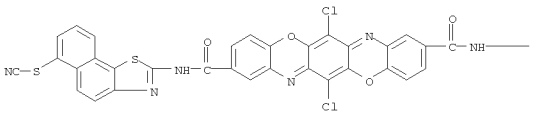

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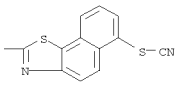


L4 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1951:58053 CAPLUS
DOCUMENT NUMBER: 45:58053
ORIGINAL REFERENCE NO.: 45:9882a-c
TITLE: Sulfur dyes of the dioxazine series
INVENTOR(S): Stallmann, Otto; Robbins, Gordon B.
PATENT ASSIGNEE(S): E. I. du Pont de Nemours & Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

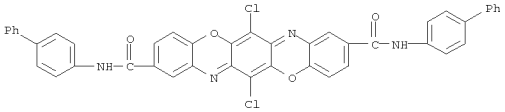
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2564380		19510814	US 1949-100745	19490622

AB Sym. N,N'-diaryltriphendioxazinedicarboxamides can be converted into sulfur dyes of desirable red shades by reaction with AlCl3.2S2Cl2 complex to introduce S-vattable groups. 4-Aminobiphenyl 10 parts and 3-nitro-4-methoxybenzoic acid 12 are condensed in the presence of SOCl2 and the nitro group is reduced with NaHS to form the xenyl amide of 3-amino-4-methoxybenzoic acid. This amide 6.5 is condensed with chloranil 2.3 to form N,N'-dixenyl-6,13-dichlorotriphendioxazine-3,10-dicarboxamide (I). S2Cl2 162 and anhydrous AlCl3 80 are stirred together for several hrs. at 80-100° to form AlCl3.2S2Cl2. This sulfurizing complex 175 and I 10 are allowed to react for 30 min. at 80°, drowned in ice water 1000 containing HCl 50, and stirred until the excess of sulfurizing agent is decomposed The mass is filtered, the precipitate is washed and extracted at 85° with a weakly alkaline solution 1500 parts, filtered, washed alkali-free, and dried at 75°. The product dyes cotton reddish orange from a sulfide vat. The 2,9-dicarboxamide isomeric with I after sulfurization dyes cotton pink from a sulfide vat.

IT 859322-81-9, 2,9-Triphenodioxazinedicarboxanilide, 6,13-dichloro-4',4''-diphenyl- (and dye from)

RN 859322-81-9 CAPLUS

CN 2,9-Triphenodioxazinedicarboxamide, N2,N9-bis([1,1'-biphenyl]-4-yl)-6,13-dichloro- (CA INDEX NAME)



L4 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2008 ACS on STN (Continued)